

Physics 10154 - Exam #1C

Answer the following two questions. Be sure to clearly indicate your answer with a circle or box. Show all work. If I cannot see how you arrived at an answer, I will deduct points!

1. A driver is attempting to qualify for a 200-mile race, and he needs an overall average velocity of 180 miles/hour to do so. During the first 150 miles of the race, he drives at a constant speed of 195 miles/hour. How fast does he have to drive during the last 50 miles in order to have the target average velocity of 180 miles/hour? Answer with 3 SF.

2. A package is dropped from a descending balloon. It's initial speed is 7.5 miles/hour downward. It requires only 1.45 seconds to fall the last 25 meters. What was the initial height of the balloon (in meters) from which the package was dropped?